CLAIMS

We claim:

1. An inspection device including:

a light source;

a pellicle beamsplitter for receiving light from the light source and redirecting said light;

an aperture array for receiving light from the pellicle beamsplitter;

a dual telecentric object reimager including a plurality of lenses;

a telecentric camera imager including a plurality of lenses; and

a camera for collecting focused light.

2. A process of inspecting a surface including bumps thereon, the process comprising:

scanning a surface using optics and a camera capable of determining light intensity for each pixel viewed;

measuring the light intensity at each pixel at a first elevation;

measuring the light intensity at each pixel at a second elevation; and

determining the elevation of the surface using a Gaussian curve based upon the light intensities measured at the first and second elevations at each pixel .

3. The process of claim 2 further comprising:

scanning at least particular portions of a surface believed to contain protrusions extending outward from the surface using optics and a camera capable of determining light intensity for each pixel viewed;

measuring the light intensity at each pixel at a third elevation;

measuring the light intensity at each pixel at a fourth elevation; and

determining the elevation of the protrusions using a Gaussian curve based upon the light intensities measured at the third and fourth elevations at each pixel .

4. The process of claim 3 further comprising:

determining the height of a protrusion by calculating the difference between the elevation of a protrusion and the elevation of the surface.

5. The process of claim 2 wherein an inspection device is used to perform the scanning and includes:

a light source;

a beamsplitter for receiving light from the light source and redirecting said light;

an aperture array for receiving light from the pellicle beamsplitter;

at least one reimager; and

a camera for collecting focused light.